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OCT 21 1970

CURRENT SERIAL RECORDS

WATER SUPPLY SUMMARY AND OUTLOOK FOR OREGON

and
FEDERAL - STATE - PRIVATE COOPERATIVE SNOW SURVEYS
UNITED STATES DEPARTMENT of AGRICULTURE...SOIL CONSERVATION SERVICE
and
OREGON STATE UNIVERSITY
and
STATE ENGINEER of OREGON

Data included in this report were obtained by the agencies named above
in cooperation with other Federal, State and private organizations.

AS OF
OCT. 1, 1970

TO RECIPIENTS OF WATER SUPPLY OUTLOOK REPORTS:

Most of the usable water in western states originates as mountain snowfall. This snowfall accumulates during the winter and spring, several months before the snow melts and appears as streamflow. Since the runoff from precipitation as snow is delayed, estimates of snowmelt runoff can be made well in advance of its occurrence. Streamflow forecasts published in this report are based principally on measurement of the water equivalent of the mountain snowpack.

Forecasts become more accurate as more of the data affecting runoff are measured. All forecasts assume that climatic factors during the remainder of the snow accumulation and melt season will interact with a resultant average effect on runoff. Early season forecasts are therefore subject to a greater change than those made on later dates.

The snow course measurement is obtained by sampling snow depth and water equivalent at surveyed and marked locations in mountain areas. A total of about ten samples are taken at each location. The average of these are reported as snow depth and water equivalent. These measurements are repeated in the same location near the same dates each year.

Snow surveys are made monthly or semi-monthly from January 1 through June 1 in most states. There are about 1400 snow courses in Western United States and in the Columbia Basin in British Columbia. In the near future, it is anticipated that automatic snow water equivalent sensing devices along with radio telemetry will provide a continuous record of snow water equivalent at key locations.

Detailed data on snow course and soil moisture measurements are presented in state and local reports. Other data on reservoir storage, summaries of precipitation, current streamflow, and soil moisture conditions at valley elevations are also included. The report for Western United States presents a broad picture of water supply outlook conditions, including selected streamflow forecasts, summary of snow accumulation to date, and storage in larger reservoirs.

Snow survey and soil moisture data for the period of record are published by the Soil Conservation Service by states about every five years. Data for the current year is summarized in a West-wide basic data summary and published about October 1 of each year.

PUBLISHED BY SOIL CONSERVATION SERVICE

The Soil Conservation Service publishes reports following the principal snow survey dates from January 1 through June 1 in cooperation with state water administrators, agricultural experiment stations and others. Copies of the reports for Western United States and all state reports may be obtained from Soil Conservation Service, Western Regional Technical Service Center, Room 209, 701 N. W. Glisan, Portland, Oregon 97209.

Copies of state and local reports may also be obtained from state offices of the Soil Conservation Service in the following states:

STATE	ADDRESS
Alaska	P. O. Box "F", Palmer, Alaska 99645
Arizona	6029 Federal Building, Phoenix, Arizona 85025
Colorado (N. Mex.)	12417 Federal Building, Denver, Colorado 80202
Idaho	Room 345, 304 N. 8th. St., Boise, Idaho 83702
Montana	P. O. Box 98, Bozeman, Montana 59715
Nevada	P. O. Box 4850, Reno Nevada 89505
Oregon	1218 S. W. Washington St., Portland, Oregon 97205
Utah	4012 Federal Building, Salt Lake City, Utah 84111
Washington	360 U.S. Court House, Spokane, Washington 99201
Wyoming	P. O. Box 340, Casper, Wyoming 82601

PUBLISHED BY OTHER AGENCIES.

Water Supply Outlook reports prepared by other agencies include a report for California by the Water Supply Forecast and Snow Surveys Unit, California Department of Water Resources, P. O. Box 388, Sacramento, California 95802 --- and for British Columbia by the Department of Lands, Forests and Water Resources, Water Resources Service, Parliament Building, Victoria, British Columbia



WATER SUPPLY SUMMARY AND OUTLOOK FOR OREGON

and
FEDERAL - STATE - PRIVATE COOPERATIVE SNOW SURVEYS

Issued

OCTOBER 8, 1970

Issued by

KENNETH E. GRANT

ADMINISTRATOR
SOIL CONSERVATION SERVICE
WASHINGTON, D.C.

|||||
Released by

A.J. WEBBER

STATE CONSERVATIONIST
SOIL CONSERVATION SERVICE
PORTLAND, OREGON

In Cooperation with

G. BURTON WOOD

DIRECTOR
OREGON AGRICULTURAL
EXPERIMENT STATION

CHRIS L. WHEELER

STATE ENGINEER
STATE OF OREGON
|||||

Report prepared by

TOMMY A. GEORGE, Snow Survey Supervisor

and

HOWARD M. VANCE, Assistant Snow Survey Supervisor

SOIL CONSERVATION SERVICE
1218 S.W. WASHINGTON ST.
PORTLAND, OREGON 97205

October 1, 1970

Good water supplies were experienced by most of Oregon's water users during the past summer season. Some shortages occurred in the North Unit Irrigation District at Madras, and in Wasco County.

Streamflow dropped off rapidly in July and August due to lack of rainfall. Irrigators who depend on direct diversion and who had good early season supplies experienced some shortages at this time. However, it was generally a good water year around the State.

Precipitation during the July and August period was mostly very poor, with some areas going without rain for as long as 85 days. The eastern third of the state, and the Willamette Valley, experienced some good rainfall during September which helped streamflow and soil moisture conditions considerably. Soil moisture for October 1 is about average except on the Upper Owyhee in Nevada where soils are very dry.

Streamflow was generally 80 to 100 percent of average during the summer months, except for the inflow to Klamath Lake which was much below normal.

Typical April-September flows*, as percent of the 1953-67 average versus April 1 forecasts, are as follows:

	<u>Flow</u>	<u>April 1 Forecast</u>
Owyhee Reservoir net Inflow	102%	117%
Grande Ronde at La Grande	90%	82%
Willamette, Mid. Fk. blw. N. Fk. near Oakridge	76%	76%
Rogue River at Raygold	71%	81%
Klamath Lake net Inflow	60%	81%
Umatilla near Pendleton	103%	77%
Little Deschutes near La Pine	57%	70%
Crane Prairie net Inflow	77%	86%

Carryover storage in Oregon's reservoirs is excellent except on the Upper Deschutes in Central Oregon. Current storage in twenty-four reservoirs is 130 percent of the October 1 average compared to 125 percent on this date last year. This carryover water will help give many users adequate supplies in 1971. Wickiup reservoir contains 20 percent of average amounts for this time of year and users dependent upon this water will experience shortages next year even with an above normal snow accumulation this winter.

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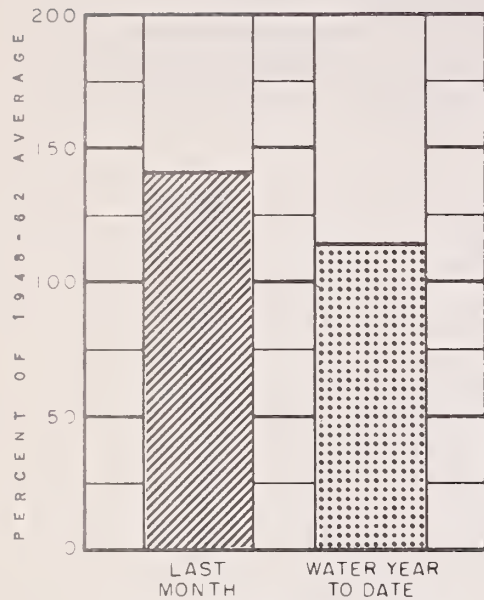
Prospects in 1971 look good for almost all of the State and a good snowpack this winter would help guarantee this for most users.

*Provisional data furnished by the U. S. Geological Survey and Oregon State Engineer.

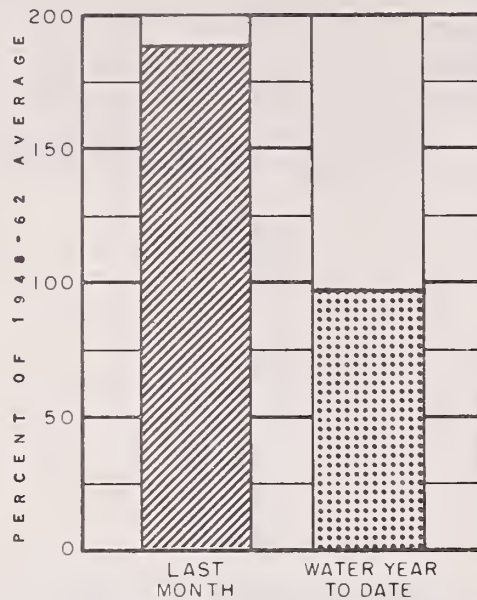
STATUS OF RESERVOIR STORAGE, OCTOBER 1, 1970

RESERVOIR	USABLE CAPACITY	THOUSANDS ACRE FEET IN STORAGE ABOUT OCT. 1		
	(Thous. A.F.)	1970	1969	15-Year Average 1953-67
<u>UPPER COLUMBIA DRAINAGE</u>				
Antelope	55.0	17.2	5.3	6.9
Owyhee	715.0	485.9	436.8	281.9
Agency Valley	60.0	10.2	5.5	8.1
Bully Creek	30.0	12.6	7.1	6.4
Warm Springs	191.0	110.7	60.4	45.6
Phillips Lake	73.5	48.0	25.2	- -
Unity	25.2	1.0	1.7	2.7
Wallowa Lake	37.5	12.6	8.2	15.4
<u>LOWER COLUMBIA DRAINAGE</u>				
Cold Springs	50.0	4.0	2.0	2.6
McKay	73.8	15.4	25.7	6.1
Ochoco	47.5	22.1	18.0	15.0
Prineville	153.0	100.4	108.4	103.0
Crane Prairie	55.3	19.4	15.6	22.9
Crescent Lake	86.9	24.0	26.7	33.9
Wickiup	200.0	8.8	25.9	45.6
Cottage Grove	30.0	5.3	11.9	5.5
Cougar	155.2	80.1	76.1	- -
Detroit	299.9	145.0	157.5	193.0
Dorena	70.5	8.8	25.8	7.2
Fall Creek	115.0	6.3	16.5	- -
Fern Ridge	94.2	61.2	66.8	50.7
Foster	30.0	25.0	21.5	- -
Green Peter	270.0	83.3	106.1	- -
Hill Creek	200.0	47.4	134.7	124.7
Lookout Point	337.2	246.2	208.7	213.4
Timothy Lake	61.7	58.4	66.5	58.6
<u>WEST COAST DRAINAGE</u>				
Fourmile Lake	16.1	3.1	10.1	6.7
Fish Lake	7.8	3.6	3.3	2.4
Howard Prairie	60.0	46.8	45.7	33.6
Hyatt Prairie	16.1	10.4	10.9	7.9
Emigrant Lake	39.0	5.6	12.2	9.4
Upper Klamath	584.0	299.1	341.2	307.3
Gerber	94.0	47.2	48.5	27.1
Clear Lake	440.2	268.7	235.8	168.6
Cottonwood	8.7	1.0	1.8	0.4
Drews	63.0	32.2	33.9	24.0

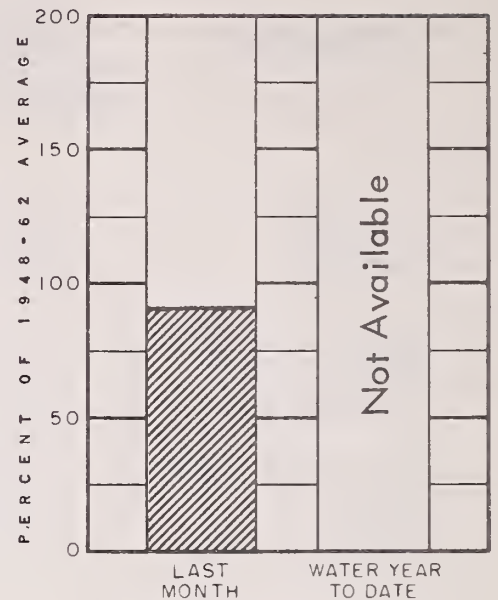
CURRENT OREGON STREAMFLOW



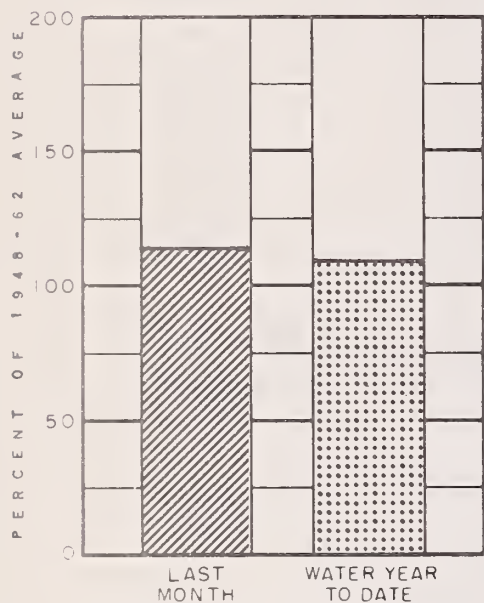
Owyhee Lake net inflow



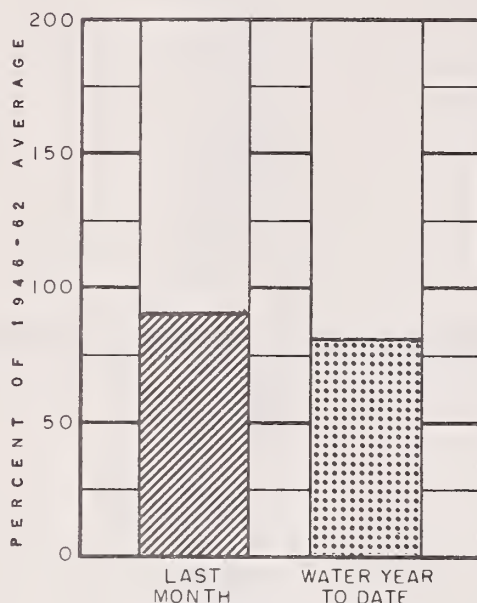
Grande Ronde at La Grande



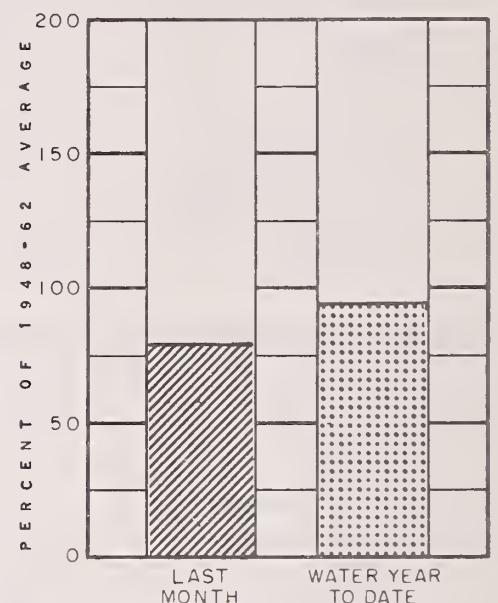
Umatilla at Pendleton



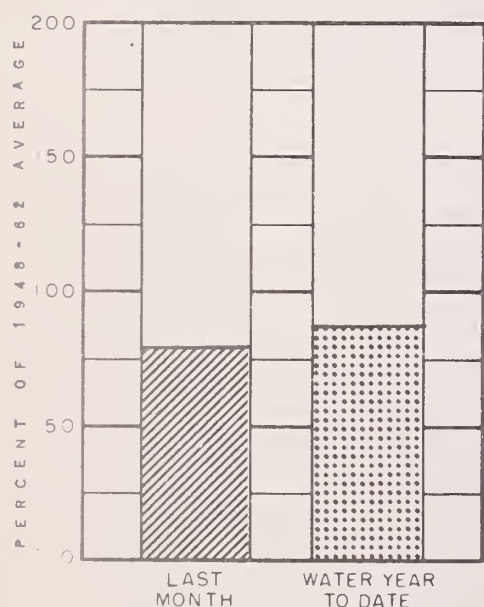
John Day at Service Creek



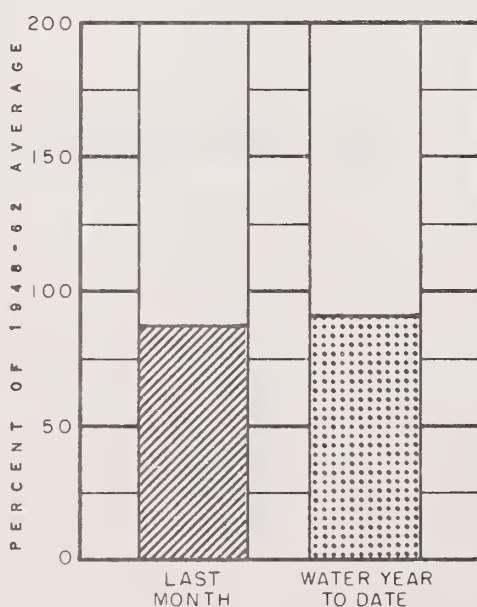
Deschutes at Moody



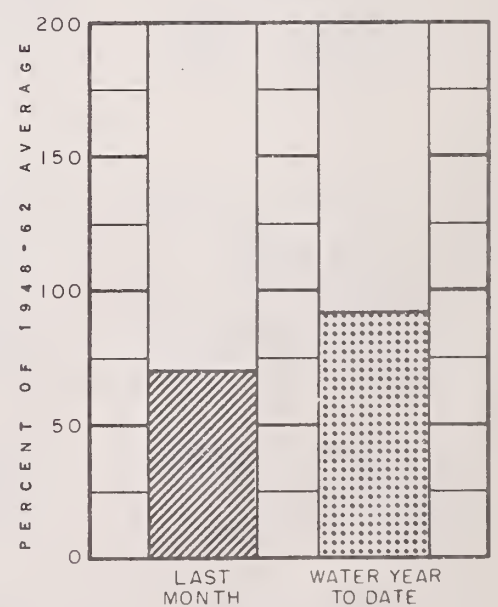
Mid. Fk. Willamette below No. Fk.



Umpqua near Elkton



Rogue at Raygold



Upper Klamath Lake net inflow

Data furnished by U.S. Geological Survey; The Pacific Power and Light Co.; and North and South Boards of Control Owyhee Project.

SOIL MOISTURE as of October 1, 1970

DRAINAGE BASIN and/or STATION		Profile (Inches)		Date of Survey	Soil Moisture (Inches)		
Name	Elevation	Depth	Capacity		This Year	Last Year	Average †
AREA 1							
Bear Creek (Nev.)	7800	72	16.8	b		- -	11.9
Big Bend (Nev.)	6700	48	16.7	9/18	9.2	13.4	15.8 ^f
Blue Mtn. Springs	5900	42	16.9	9/28	5.5	5.3	5.7
Crane Prairie	5375	48	18.2	9/28	14.8	14.4	14.5
Folly Farm	4450	30	12.5	b		7.8	- -
Jack Cr., Lower (Nev.)	6800	48	8.6	9/21	6.4	6.4	7.8
Jordan Valley	4390	48	19.3	Late Report		14.0	14.9
Mud Flat (Ida.)	5500	48	12.8	Late Report		- -	10.8
Rodeo Flat (Nev.)	6800	42	11.0	9/18	5.9	8.3	10.5 ^f
Taylor Canyon (Nev.)	6200	48	15.1	9/21	8.0	9.5	12.6 ^f
Triangle (Ida.)	5150	48	16.6	Late Report		9.7	13.4
AREA 2							
Blue Mtn. Summit	5100	36	16.8	9/28	8.6	8.0	7.9
Dooley Mountain	5430	36	9.2	9/28	2.3	2.2	2.4
Emigrant Springs	3925	48	22.3	8/24	19.4	21.2	16.3
Ladd Summit	3730	48	18.9	9/30	9.3	9.2	8.7
Moss Springs	5850	42	25.8	9/30	13.9	11.7	14.6
Tollgate	5070	48	23.6	9/21	11.1	10.2	15.3
AREA 3							
Battle Mtn. Summit	4340	48	13.8	8/24	10.0	9.8	9.8
Emigrant Springs	3925	48	22.3	8/24	19.4	21.2	16.3
Tollgate	5070	48	23.6	9/21	11.1	10.2	15.3
AREA 4							
Battle Mtn. Summit	4340	48	13.8	8/24	10.0	9.8	9.8
Beech Creek	4800	48	21.3	9/28	7.2	7.4	7.3
Blue Mountain Springs	5900	42	16.9	9/28	5.5	5.3	5.7
Blue Mountain Summit	5100	36	16.8	9/28	8.6	8.0	7.9
Derr	5670	24	9.0	9/25	4.2	- -	4.7
Marks Creek	4540	36	14.1	9/25	9.0	9.2	8.9
Snow Mountain	6300	48	16.7	9/18	9.9	10.3	9.9
Starr Ridge	5150	36	10.6	9/28	7.2	7.2	7.2
Williams Ranch	4500	42	17.9	9/28	14.9	14.2	15.1
AREA 5							
Derr	5670	24	9.0	9/25	4.2	- -	4.7
Marks Creek	4540	36	14.1	9/25	9.0	9.2	8.9
Snow Mountain	6300	48	16.7	9/18	9.9	10.3	9.9
AREA 6							
Cooper Spur	3490	72	26.4	9/24	7.7	9.7	13.7
AREA 10							
Bly Mountain	5090	42	14.0	9/25	8.2	7.4	8.2
AREA 11							
Canas Creek	5720	42	14.5	9/25	9.5	9.4	9.3
Quartz Mountain	5320	48	15.3	9/24	5.1	5.7	4.6
AREA 12							
Blue Mountain Spring	5900	42	16.9	9/28	5.5	5.3	5.7
Fish Creek	7900	48	15.0	10/2	7.5	8.6	8.9
Folly Farm	4450	30	12.5	b		7.8	- -
Silvies	6900	48	16.4	10/2	11.3	10.0	10.1
Snow Mountain	6300	48	16.7	9/18	9.9	10.3	9.9
Starr Ridge	5150	36	10.6	9/28	7.2	7.2	7.2
Willow-Bald	5000	24	6.6	9/18	3.4	4.1	3.4

